Practitioner's Docket No. ___END920030054US1___   **PATENT**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Vyacheslav Barsuk

Application No.:   10 / 736,429   Group No.:   2116
Filed: 12/15/2003   Examiner: Michael J. Brown
For: METHOD, APPARATUS AND PROGRAM STORAGE DEVICE FOR PROVIDING REMOTE
POWER RESET AT A REMOTE SERVER THROUGH A NETWORK CONNECTION

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION OF PRIOR INVENTION IN THE UNITED STATES OR IN A NAFTA OR WTO MEMBER COUNTRY TO OVERCOME CITED PATENT OR PUBLICATION (37 C.F.R. § 1.131)

NOTE: 37 C.F.R. § 1.131 Affidavit or declaration of prior invention.

(a) When any claim of an application or a patent under reexamination is rejected, the inventor of the subject matter of the rejected claim, the owner of the patent under reexamination, or the party qualified under §§ 1.42, 1.43, or 1.47, may submit an appropriate oath or declaration to establish invention of the subject matter of the rejected claim prior to the effective date of the reference or activity on which the rejection is based. The effective date of a U.S. patent, U.S. patent application publication, or international application publication under PCT Article 21(2) is the earlier of its publication date or date that it is effective as a reference under 35 U.S.C. 102(e). Prior invention may not be established under this section in any country other than the United States, a NAFTA country, or a WTO member country. Prior invention may not be established under this section before December 8, 1993, in a NAFTA country other than the United States, or before January 1, 1996, in a WTO member country other than a NAFTA country. Prior invention may not be established under this section if either:

CERTIFICATION UNDER 37 C.F.R. §§ 1.8(a) and 1.10*
(When using Express Mail, the Express Mail label number is mandatory;
Express Mail certification is optional.)

I hereby certify that, on the date shown below, this correspondence is being:

MAILING

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37 C.F.R. § 1.8(a)   **37 C.F.R. § 1.10 ***

☒ with sufficient postage as first class mail.   ☐ as "Express Mail Post Office to Addressee"
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TRANSMISSION

☐ facsimile transmitted to the Patent and Trademark Office, (571) 273-8300.

Signature

Date: 11/20/01

Georgia Y. Brundege
(type or print name of person certifying)

* Only the date of filing (§ 1.6) will be the date used in a patent term adjustment calculation, although the date on any certificate of mailing or transmission under § 1.8 continues to be taken into account in determining timeliness. See § 1.703(f). Consider "Express Mail Post Office to Addressee" (§ 1.10) or facsimile transmission (§ 1.6(d)) for the reply to be accorded the earliest possible filing date for patent term adjustment calculations.

(1) The rejection is based upon a U.S. patent or U.S. patent application publication of a pending or patented application to another or others which claims the same patentable invention as defined in § 1.601(n); or

(2) The rejection is based upon a statutory bar.

PURPOSE OF DECLARATION

1. This declaration is to establish completion of the invention of this application in

☒ the United States

☐ the NAFTA country _____ *(name of country)*

☐ the WIPO country _____ *(name of country)*

at a date prior to _____June 30, 2003_____, that is the effective date of the prior art

☐ publication _____

☐ patent _____

☒ patent publication ___US 2004/0267918 A1_____

☐ other _____

that was cited by the

☒ examiner.

☐ applicant.

NOTE: 37 C.F.R. § 1.131 is not applicable to a rejection based on a U.S. patent that CLAIMS the rejected invention.

2. The person making this declaration is (are):

☒ the inventor(s).

☐ only some of the joint inventor(s) *(and a suitable excuse is attached for failure of the omitted joint inventor(s) to sign)*

☐ the party in interest *(and a suitable explanation as why it is not possible to produce the declaration of the inventor(s) is attached)*

FACTS AND DOCUMENTARY EVIDENCE

NOTE: "The showing of facts shall be such, in character and weight, as to establish reduction to practice prior to the effective date of the reference, or conception of the invention prior to the effective date of the reference coupled with due diligence from prior to said date to a subsequent reduction to practice or to the filing of the application. Original exhibits of drawings or records, or photocopies thereof, must accompany and form part of the affidavit or declaration or their absence satisfactorily explained." 37 C.F.R. § 1.131(b).

(Declaration of Prior Invention in the United States or in a NAFTA or WTO Member Country to Overcome Cited Patent or Publication—37 C.F.R. § 1.131 [9-32]—page 2 of 5)

"I conceived and reduced to practice the invention, as currently claimed, by March 2003. This is evidenced by invention disclosure END8-2003-0065 submitted by me on May 7, 2003, the source code lising for "res.c" (implemented at a calling computer), the source code listing for "rescl.c" (implemented at the remote computer which is called by the calling computer), and the dir_list.txt directory (which indicates last date of update of "res.c" and "rescl.c" source code programs). I recently added comments to the res.c and rescl.c source code for explanatory purposes, and these comments accurately reflect the function of the respectively steps in the source code."

3. To establish the date of completion of the invention of this application, the following attached documents and/or models are submitted as evidence:

(check all applicable items below)

☐ sketches

☐ blueprints

☐ photographs

☐ reproduction(s) of notebook entries

☐ model

☐ supporting statement(s) by witness(es) (where verbal disclosures are the evidence relied upon)

☐ interference testimony   `rescl.c (source code)`
                                           `dir_list.txt (directory)`

☒ disclosure documents- `Disclosure END8-2003-0065`
                                      `resc.c (source code)`

NOTE: *While conception is the mental part of the inventive act, it must be capable of proof, such as by demonstrative evidence or by a complete disclosure to another. Conception is more than a vague idea of how to solve a problem. The requisite means themselves and their interaction must also be comprehended. See Mergenthaler v. Scudder 1897 C.D. 724, 81 O.G. 1417." See also M.P.E.P. § 715.07 and § 2138.04, 7th ed.*

4. From these documents and/or models, it can be seen that the invention in this application was made

☐ on _____

☒ at least by the date of March 31, 2003, which is a date earlier than the effective date of the reference.

NOTE: *"If the dates of the exhibits have been removed or blocked off, the matter of dates can be taken care of in the body of the oath or declaration." M.P.E.P. § 715.07, 8th ed.*

NOTE: *"[T]he dates in the oath or declaration may be the actual dates, or, if the applicant or patent owner does not desire to disclose his or her actual dates, he or she may merely allege that the acts referred to occurred prior to a specified date. However, the actual dates of acts relied on to establish diligence must be provided." M.P.E.P. § 715.07, 8th ed.*

DILIGENCE

NOTE: *"Where there has not been reduction to practice prior to the date of the reference, the applicant or patent owner must also show diligence in the completion of his or her invention from a time just prior to the date of the reference continuously up to the date of the actual reduction to practice or up to the date of filing his or her application (filing constitutes a constructive reduction to practice, § 1.131)." M.P.E.P. § 715.07, 8th ed..*

NOTE: *"A conception of an invention, though evidenced by disclosure, drawings, and even a model, is not a complete invention under the patent laws, and confers no rights on an inventor, and has no effect on a subsequently granted patent to another, UNLESS HE OR SHE FOLLOWS IT WITH REASONABLE DILIGENCE BY SOME OTHER ACT, such as an actual reduction to practice or filing an application for a patent. Automatic Weighing Mach. Co. v. Pneumatic Scale Corp., Limited 1909 C.D. 498, 139 O.G. 991, M.P.E.P. § 715.07, 8th ed.*

"Conception in the mental part of the inventive act, but it must be capable of proof, as by drawings, complete disclosure to another person, etc. In Mergenthaler v. Scudder, 1897 C.D. 724, 81 O.G. 1417, it was established that conception is more than a mere vague idea of how to solve a problem; the means themselves and their interaction must be comprehended also." M.P.E.P. § 715.07, 8th ed.

NOTE: *"[O]nly diligence before reduction to practice is a material consideration. The 'lapse of time between the completion or reduction to practice of an invention and the filing of an application thereon' is not relevant to an affidavit or declaration under 37 CFR 1.131. See Ex parte Merz, 75 USPQ 296 (Bd. App. 1947)." MPEP § 715.07(a), 8th ed.*

5. Attached is a statement establishing the diligence of the applicants, from the time of their conception, to a time just prior to the date of the reference, up to the:

☒ .actual reduction to practice.

☐ filing of this application.

TIME OF PRESENTATION OF THE DECLARATION

(complete (a), (b) or (c))

(a) ☒ This declaration is submitted prior to final rejection.

(b) ☐ This declaration is submitted with the first response after final rejection, and is for the purpose of overcoming a new ground of rejection or requirement made in the final rejection.

(c) ☐ This declaration is submitted after final rejection. A showing under 37 C.F.R. § 1.116(b) is submitted herewith.

DECLARATION

6. As a person signing below:

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

(Declaration of Prior Invention in the United States or in a NAFTA or WTO Member Country to Overcome Cited Patent or Publication—37 C.F.R. § 1.131 [9-32]—page 4 of 5)
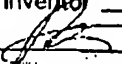
(Ref.99--8/04 Pub.605)   FORM 9-32   9-197

SIGNATURE(S)

7.   *(complete A or B below)*

A. Inventor(s)

Full name of sole or first inventor ___Vyacheslav Barsuk___

Inventor's signature _____

Date __11/16/06__ Country of Citizenship ___Ukraine___

Residence ___2450 Airport Road, K3103, Longmont , CO   80503___

Post Office Address ___Same as Residence___

Full name of second joint inventor, if any _____

Inventor's signature _____

Date _____ Country of Citizenship _____

Residence _____

Post Office Address _____

(use added page for signature by additional inventors)

Number of pages added: __0__

B. Assignee

_____

(type or print name of person signing)

_____

Signature

_____

Date

_____

P.O. Address

_____

(type name of assignee)

_____

Address of assignee

_____

Title of person authorized to sign
on behalf of assignee

Assignment recorded in PTO on _____

Reel _____ Frame _____

A "CERTIFICATE UNDER 37 C.F.R. § 3.73(b)" is attached.

(Declaration of Prior Invention in the United States or in a NAFTA or WTO Member Country to Overcome
Cited Patent or Publication—37 C.F.R. § 1.131 [9-32]—page 5 of 5)

```c
/* 03/05/03 *this is source code in C programming language of
"pinned" program running on remote machine/—
/* by Slava Barsuk */
/* on demand power reset           */

#include <stdio.h> definition of miscellaneous C headers
#include <sys/types.h>
#include <sys/socket.h>
#include <sys/time.h>
#include <sys/select.h>
#include <sys/reboot.h>
#include <sys/sched.h>
#include <sys/lock.h>
#include <netinet/in.h>
#include <netdb.h>
#include <spc.h>
#include <strings.h>
#include <string.h>
#include <signal.h>


char cws_name[32]; defninition of data structures
struct      sockaddr_in      server;
int   sock,ws;

int   main_processing() body of subroutine to perfom power
operation, called from main body, when request comes on tcp
socket
{
static      struct      sockaddr_in      *pfrom; defninition of data
structures
static      struct      sockaddr   from;
static      struct      hostent          *hp;
static      struct
{ deninition of memory buffer for received request, consists of 3
elements - len, code and text
int   len;
int   code;
char text[24];

} buf;

static      int   addrlen,NB;

    addrlen=sizeof(from);
    pfrom=(struct sockaddr_in *)&from;
    NB=read(ws,&buf,sizeof(buf)); read request from tcp socket
ws into memory reffered as buf. NB receives number of actual
bytes read
```

```c
        if(NB!=8 || buf.len!=4 ) return(-1); Check that number of
bytes read is 8 (NB==8) and len element is equal 4. If not,
return to main body and continue listening ( ignore request)

        if(getpeername(ws,&from,&addrlen)>=0) get tcp address of
request sender
            {
            hp=gethostbyaddr(&pfrom->sin_addr,4,AF_INET); resolve
tpc address of request sender into symbolic hostname
            if(hp==NULL) return(-1); return to main body, if unable
to resolve name
            if(strcmp(hp->h_name,cws_name)!=0) return(-1); compare
requester name with authorised hostname, if not, return to main
body (ignore request)
            if( buf.code==12 ) check message code. if 12, initiate
reboot operation
                {
                reboot(RB_SOFTIPL); system call to reboot
                }
            else if( buf.code==13 ) if message code is 13,
initiale power off (halt) operation
                {
                reboot(RB_HALT); system call to halt
                }
            }
    }

void main(int argc,char *argv[]) main body
    {

struct    servent *port,*getservbyname(); defninition of data
stuctures
int    l;

actual code starts here
    strncpy(cws_name,argv[1],30); accept authorized hostname as
parameter
    if(strlen(cws_name)<2) exit(6); check that authorized
hostname is not empty, exit program if name is not provided
    port=getservbyname("pwrport",0); if(port==0) exit(4);
resolve tpc communication port, exit program if  port can't be
resolved

    sock=socket(AF_INET, SOCK_STREAM,0); create and initialize
tcp socket structure for communication
    if (sock<0)  exit(5); exit program if socket can't be
created

    server.sin_family=AF_INET;
```

```
      server.sin_len=sizeof(server);
      server.sin_addr.s_addr=INADDR_ANY; set listener address
(any)
      server.sin_port=htons(port->s_port); set listener port
      l=sizeof(server);
      if (bind(sock,(struct sockaddr *)&server, 1)) bind socket to
tcp port, exit if can't bind
                  exit(7);

      if (getsockname(sock, (struct sockaddr *)&server, &l))
            exit(7); check that socket was created and binded
succesfuly
      plock(TXTLOCK); pin program to memory ( claim 1)

      listen(sock,10); start listening to requests on tcp socket
sock ( claim 1)

      do { start loop to wait and process requests (claim 1)
            ws=accept(sock,0,0); wait for request to come and
create communication socket ws for it, when it came (claim 1)
            main_processing(); peform request analysys and
processing ( subroutine main_processing, which does power
operation)
            close(ws); close socket
         }
      while(1); go to the beginning of the loop ( keep waiting for
new requests to come)

      }
```

```
total 360
-rw-r-----    1 root      sys            1274 Feb 13 2003  pwrst.c
-rw-r--r--    1 root      sys            1357 Feb 13 2003  pwrhd.c
-rw-r--r--    1 root      sys            3734 Feb 13 2003  pwrhd
-rw-r-----    1 root      sys            1436 Feb 13 2003  pwron.c
-rwxr-xr-x    1 root      sys            6083 Feb 13 2003  pwron
-rwxr-xr-x    1 root      sys            5883 Feb 13 2003  pwrst
-rwx------    1 root      system          288 Feb 13 2003  pwr_up
-rw-r-----    1 root      sys            1620 Feb 13 2003
pstatus.c
-rwxr-xr-x    1 root      sys            6179 Feb 13 2003  pstatus
-rwx------    1 root      system          274 Feb 13 2003
pwrstatus
-rwx------    1 root      system          972 Mar 03 2003  pwrreset
-rw-r-----    1 root      sys            1290 Mar 06 2003  rescl.c
- source file of reset initiator program
-rwx------    1 root      system         3983 Mar 06 2003  rescl -
compiled file of reset initiator prog.
-rw-r--r--    1 root      sys            1738 Mar 31 2003  res.c
-source file "pinned" program
-rwx------    1 root      system         4305 Mar 31 2003  res
-compiled file "pinned" program
-rw-r--r--    1 root      sys           61440 Oct 14 2003  pwr.tar
-rwxr-xr-x    1 root      system         7910 Oct 06 2005  resclx
-rw-r--r--    1 root      system         1857 Oct 06 2005  resx.c
-rwxr-xr-x    1 root      system        11134 Oct 06 2005  resx
-rw-r-----    1 root      system         1433 Oct 28 2005  resclx.c
-rwxr-xr-x    1 root      system         6536 Oct 28 2005  rr
-rw-r--r--    1 root      system         8000 Oct 28 2005  wc
```

Disclosure END8-2003-0065
Prepared for and/or by an IBM Attorney - IBM Confidential

Created By Vyacheslav Barsuk On 05/07/2003 01:43:12 PM MDT
Last Modified By Enterprise Agentmgr On 10/09/2004 10:34:22 PM EDT
Archived on 10/09/2004

Required fields are marked with the asterisk (*) and must be filled in to complete the form .

*Title of disclosure (in English)
Remote power reset of AIX (UNIX) servers through network connection

Summary

Status	Final Decision (File)
Final deadline	
Final deadline reason	
Docket family	END9-2003-0054
Original location	BLD
* Processing location	Endicott
* Functional area	(Larry Longseth) Global Services-Boulder
Attorney/Patent professional	Arthur Samodovitz/Endicott/IBM
Invention development team (IDT)	Gerri Peper/Boulder/IBM Patrick Wong/San Jose/IBM Donald Schaefer/Boulder/IBM
Submitted date	05/07/2003 04:27:37 PM MDT
* Owning division	GS
* Line of business	INT - IBM Internal Support Primary Inventor's Line of Business (LoB)
Incentive program	
Lab	LONGSETH
* Technology code	674
Patent value tool (PVT) score	57

Inventors with a Blue Pages entry
Inventors: Vyacheslav Barsuk/Boulder/IBM

Inventor Name	Inventor Serial	Div/Dept	Inventor Phone	Manager Name
> Barsuk, Vyacheslav	8A6689	07/U8BJ	347-2303	Kleespies, Thomas (Tom)

> denotes primary contact

Inventors without a Blue Pages entry

Invention Development Team Information

Attorney/Patent professional	Arthur Samodovitz/Endicott/IBM
Invention development team (IDT)	Gerri Peper/Boulder/IBM Patrick Wong/San Jose/IBM Donald Schaefer/Boulder/IBM
Response due to IP&L	06/09/2003

Main Idea

Title of disclosure (in English)
Remote power reset of AIX (UNIX) servers through network connection

Main Idea

1. Background: What is the problem solved by your invention? Describe known solutions to this problem (if any). What are the drawbacks of such known solutions, or why is an additional solution required? Cite any relevant technical documents or references.
It is applicable to UNIX servers. When server runs out of virtual memory because of applicaion memory consumption, server hangs. It is impossible to login into affected server. Only way to bring server back is to reboot via resetting power. It becomes a huge problem in case of remotely located servers.To reset power remotely, additional hardware required or server should have built in hardware features - like certain models of IBM pseries servers. In both cases installation of additional communication equipment required.

2. Summary of Invention: Briefly describe the core idea of your invention (saving the details for questions #3 below). Describe the advantage(s) of using your invention instead of the known solutions described above.
There is a way to perform remote power reset of hanged server through existing tcp/ip network connection. It doesn't require any additional hardware and compatible with wide range of unix servers . Power reset performs via software.

3. Description: Describe how your invention works, and how it could be implemented, using text, diagrams and flow charts as appropriate.
When server hangs as result of running out of virtual memory, operating system can't launch any new processes, but it is not completelly dead.
Server responds to tcp/ip ping. Existing processes, which don't require new system resources will work. If there is a process, with very small memory requirements and pinned to memory, it survives. This process should listen to specific tcp/ip port.
When server hangs, it is possible to send specific tcp packet to hanged server from another server connected to the same network.
Described above process will receive this packet and performs system call in order to reboot or power off server.

Solution was tested on different models of IBM RS/6000 pseries servers running AIX V4.3/5.1 and proved it functionality.
There is a reason to believe that solution will work with other unix servers like linux

To view the Main Idea of this disclosure, open the "Main Idea" document from the view
*Inventor Questions

* 1. Select the single most appropriate technology category for your invention from the following
technologies list.
(674) Tech Tag 600 Software/Services/ Applications/Solutions-674   Other Software Access
Comments
Are there any additional significant markets where the invention is likely to have impact?
○ Yes ● No
if yes, please identify them:

---

* 2. Have you implemented the invention (e.g., made a prototype) or otherwise shown that it is workable?
● Yes ○ No
if Yes, then what date

---

* 3. Has the subject matter of the invention or a product incorporating the invention been offered for sale,
or is it likely to be offered for sale, as part of an IBM product or service?
● No known product plans within 2 years

○ Maybe; GA 1-2 years away

○ Yes; GA within 3-12 months

○ Yes; GA within 3 months

○ Yes; product has been announced

---

* 4. Has the invention been commercially used (internally or externally) by IBM or another entity (for
example, included in or used to make products, or prototypes provided to a customer)?
● Yes ○ No
if Yes, please tell us the prototype/product, and when the use first started or is scheduled to start:
Prototype/Product
There are two programs - server part, which listens to requiest and performs power reset and client part
- which sends requiest to reset power.:
Date: March, 2003

---

* 5. In what type of product might a competitor include the invention?
unix type operating systems
* What competitor(s) (indicate home country of such competitors if not United States)?
N/A

---

* 6. How easily can the use of the invention by a third party be detected?
● Undiscoverable; third party must admit use for IBM to know

○ Difficult; e.g.; with reverse engineering or examination of available code

○ With work; e.g.; using test cases; but not reverse engineering

○ Easily; by running & viewing product operation

○ Trivally; without purchase of product; e.g.; by reading product literature

---

* 7. Is the invention applicable to an Information Technology standard such as those likely to be
developed by organizations such as the IETF, W3C, Oasis, ISO, IED or ITU?
○ Yes ● No
if Yes, what organization (if you know) and which standard?
and Is IBM participating in the development or usage of the standard? ○ Yes ○ No

To review the Information Technology standards IBM is participating in, go to
http://w3.ibm.com/standards

---

* 8. Have you, or any of the other inventors, submitted this same invention disclosure or a similar
invention disclosure previously?

○ Yes ● No
if Yes, please provide the disclosure number:

---

* 9. Please list the invention disclosures (previously submitted or about to be submitted), products, patents, or publications that you and the other inventors feel are the most relevant to your invention (for example, pertaining to the problem you are solving, including other solutions to the problem), be they from you or anyone else, or if not applicable, enter "None":
None

---

* 10. Was the invention made in the course of any activity that involved any other party, be it

● The government	○ Yes ○ No This invention disclosure has been verified to be covered by a government contract. If you feel changes are required to this information, contact the IP location handling this invention disclosure. If you check "Yes" for this question, you will be prompted to provide the following information ● contract number ● which country's government is issuing the contract ● division holding the contract ● government agency issuing the prime contract ● government program (if known)
● A customer (such as RFQ, IGS engagement)	○ Yes ○ No if yes, describe the activity
● A non-IBM development partner (such as joint development activities)	○ Yes ○ No if yes, describe the activity
● As part of a standards setting activity	○ Yes ○ No if yes, describe the activity
● Other persons not employed by IBM	○ Yes ○ No if yes, describe the activity

If Yes is answered to any of the above, please provide information sufficient to identify the activity (e.g., government contract number, company name, project name, alliance name, name of other party, client services principal, technical coordinator, etc.)

---

* 11. Have you ever disclosed your invention to anyone outside IBM, or do you plan to do so in the future?
○ Yes ● No
if Yes, please tell us whether the disclosure was (or will be) made, how made (or to be made), and whether or not there was (or is) a confidential disclosure agreement (CDA) in place covering the disclosure:

---

* 12. Is your invention one which can be offered either directly as a service by IBM or our competitors or which could improve a service offering offered by IBM or our competitors?
○ Yes ○ No
If Yes, please explain your answer:

---

* 13. If the invention relates to a product or service that is outside the scope of your business unit, please

recommend IBM business unit(s), IBM location(s) or individual(s) within IBM that you think would provide a competent evaluation of your invention:

Final Evaluation Questions

A. Threshold Questions

1. Operability - Is implementation of the invention possible?
Yes
Reasons for above answer:

2. Novelty- Are one or more concept(s) of the invention novel over what is already known in the literature, existing commercial products, patents, and earlier IBM invention disclosures?
Yes
Reasons for above answer:

B. Valuation Questions

1. Adequacy of description:
Clear and complete as is
Reasons for answer:

2. Technical contribution of invention:
Minor addition to known technology
Reasons for above answer:

3. Describe the problem solved/benefit provided and the implementation cost of the invention compared to existing or reasonably expected alternatives:
Significant problem/substantial benefit - minor implementation cost

4. Are any alternatives to the invention available to those wishing to avoid its use?
Alternatives have drawbacks

5. Describe the likelihood of use of the invention (answer each):
IBM's customers?   Probable
IBM's suppliers/vendors?   Probable
IBM's competitors?   Probable
IBM?   Probable
Reasons for above answer:

6. What % of third party products in the technical field will likely contain the invention?
< 25%

7. How long is the invention likely to be used in products by IBM or others?
5-10 years

8. How easily can use of the invention by a third party be detected?
Trivially; without purchase of product; e.g.; by reading product literature
Reasons for the above answer, including description of how use could be detected:

Evaluation

This team evaluation was entered by Georgia Brundege/Endicott/IBM on 05/29/2003

What is the team's evaluation of this disclosure?   Search

Date evaluated : 05/29/2003

Evaluation comments

Final Evaluation History	Who made the final evaluation	Final evaluation date
Search	Georgia Brundege/Endicott/IBM	5/29/2003

Search Information

Date sent: 05/30/2003	*Target completion date: 06/16/2003 Search results received date: 06/18/2003

Who was the search sent to (This area is to designate a Local Searcher name or WAIPL): WAIPL

*Search type: ☒ Patentability ☐ Clearance ☐ Validity ☐ State of Art

*Features to be searched: PLEASE SEND 2 COPIES OF SEARCH REPORT AND REFERENCES

Occasionally a server runs out of virtual memory and hangs. According to the prior art, the server can be rebooted manually, but this is time consuming. According to the present invention, there is a small program that continually runs (and has little memory requirements) and listens for a TCP/IP ping. When the server hangs, an operator at another, remote server sends the TCP/IP ping (including a data packet). The small program responds to the ping and data packet by automatically making a system call to reboot or power off the server.

Please see the Invention Disclosure for further details.

Search Office Information

Target completion date: 06/16/2003	☐ Search has been delayed	Ship/Return date: 06/17/2003
Search conducted by Bruniger		
Comments		

Final Decision

This decision was entered by Georgia Brundege/Endicott/IBM on 07/14/2003

Decision: File	Status: N/A
PPM area: 600 – Software/Services/Applications/Solutions	
Date of final decision : 07/08/2003	

Additional filing information
Planned Filing date:
Filing comments:

Additional decision comments

Final Decision History

Entered on 14-Jul-2003 by Georgia Brundege
File N/A 8-Jul-2003 Docket Family: END920030054

Post Disclosure Text & Drawings
To add additional information related to this disclosure once it has been submitted, click the action button below and a new document will be opened for you to enter the new information. To view existing post disclosure information, double-click on the item in the list below (if there has been additional information entered), and the document will open for you to view.

Date entered   Post disclosure comments and drawings (double-click an item below to view)

Form Revised (05/28/03)

```c
/* 03/06/03 by Slava Barsuk */ Source code of program in C
programming language. This portion of code implements part of
claim 9  - sending a call to the remote server
/* power reset client code */
/* v1.0.0.0          */

#include  <stdio.h> definition of miscellaneous C headers
#include  <unistd.h>
#include  <sys/ioctl.h>
#include  <sys/types.h>
#include  <sys/socket.h>
#include  <netinet/in.h>
#include  <netdb.h>
#include  <string.h>
#include  <strings.h>


void main(int argc, char *argv[])main body starts here
{
int   sock,rc,NB,len; definition of data structures
struct     sockaddr_in     server;
struct     hostent    *hp, *gethostbyname();
struct     servent    *port;
char hostname[50];
char buf[1024];
char wbuf[256];
int  rbuf[2]={4,12};
actual executable code starts here
      if(getuid()!=0)     exit(); check user id of command issuer.
must be root (superuser), if not, program exits
      if(argc<2) check that there are at least 2 command line
arguments, if not print prompt message about command usage and
exit program
       { fprintf(stderr,"--- Usage:\n\t%s <hostname>
[-r|-h]\n",argv[0]);
           exit(4); }

      len=1024;
      strcpy(hostname,argv[1]); accept destination server ( remote
server) hostname
      port=getservbyname("pwrport",0); resolve tcp communication
port for further communication

      sock=socket(AF_INET,SOCK_STREAM,0); create and initialize
tcp socket structure
      server.sin_family=AF_INET; set socket type
      server.sin_len=sizeof(server);
      hp=gethostbyname(hostname); set destination hostname
      bcopy(hp->h_addr,&server.sin_addr,hp->h_length);
```

```
        server.sin_port=htons(port->s_port); set destination port
        rc=connect(sock,(struct sockaddr *)&server,sizeof(server));
- establish connection with remote machine on tcp socket

        if(rc!=0)  {fprintf(stderr,"--- can't establish connect\n");
exit(4);} check that connection was established successfuly ( rc
should be 0), if not display error message and exit program
        if(strcmp(argv[2],"-r")==0) analyze remote operation request
- "-r" stands for reboot
                {
                fprintf(stderr,"attempt to reboot\n"); display
message that request is for reboot
                rbuf[1]=12; place reboot request code (12) into
buffer
                write(sock, rbuf,8); send message to remote
machine ( write contents of memory reffered as rbuf of size 8
bytes into tcp socket sock) claim 9
                }
        else if(strcmp(argv[2],"-h")==0)if request was not for
reboot "-r", check whether it is for power off(halr) - "-h"
                {
                fprintf(stderr,"attempt to halt\n"); display
message that request is for power off(halt)
                rbuf[1]=13; place power off request code(13) into
buffer
                write(sock, rbuf,8);send message to remote
machine( write contents of memory reffered as rbuf of size 8
bytes into tcp socket sock) - claim 9
                }
        close(sock); close connection on tcp socket
}
```